

CLAIMS

1. A vacuum heat insulator comprising a gas barrier enveloping member having a heat seal layer, and a flat core member, wherein said core member is
5 evacuated and sealed between enveloping members having mutually facing heat seal layers, and with the core member being pressed and compressed to a specified thickness in the evacuated space, the heat seal layers are mutually heated and fused along the core member shape.

2. A vacuum heat insulator comprising a gas barrier enveloping member
10 having a heat seal layer, and a flat core member, wherein said core member is evacuated and sealed between enveloping members having mutually facing heat seal layers, and by heating the pressing the portion including the core member between the enveloping members, the mutually facing heat seal layers are heated and fused along the core member shape.

15 3. A vacuum heat insulator having plural core members coated with a gas barrier enveloping member, and evacuating and sealing the inside of the enveloping member, wherein said plural core members are disposed in lattice layout or zigzag layout at mutual specific intervals so as to form folding lines in two or more directions in the position between the adjacent core members, and heat seal parts of
20 the enveloping member are disposed around the core members so that the plural core members may be located in independent spaces individually.

4. The vacuum heat insulator of claim 3, wherein the enveloping member is heated and fused by heating and pressing including the core member portions.

5. The vacuum heat insulator of claim 3, wherein all of the enveloping
25 member positioned on the outer periphery and the enveloping member in the

position between adjacent core members are heated and fused.

6. The vacuum heat insulator of claim 3, wherein there are non-seal parts not heating and fusing the enveloping member, between adjacent core members and on the outer periphery of the core members on both sides of the heat seal parts.

5 7. The vacuum heat insulator of claim 3, wherein holes are opened in the enveloping member so as to leave heat seal parts of specified width between adjacent core members.

8. The vacuum heat insulator of claim 2, wherein through-holes are formed in the thickness direction of the core member, and in the through-holes, too, by heating
10 and pressing including the portion having the core member between the enveloping members, the mutually facing heat seal layers are heated and fused along the shape of the through-holes of the core member, excluding the portion having the core member in the middle.

9. The vacuum heat insulator of claim 8, wherein the shape of the through-
15 holes is an arbitrary shape including triangular, quadrangular, polygonal, circular, elliptical, L-shape and combined shape thereof.

10. The vacuum heat insulator of claim 9, wherein holes are not formed in the enveloping member heating and fusing mutually facing heat seal layers in the area of through-holes of the core members.

20 11. The vacuum heat insulator of claim 2, wherein all parts having core members between enveloping members are heated and pressed.

12. The vacuum heat insulator of claim 2, wherein the heat seal parts having cores between enveloping members melted by heating and pressing, and fused with the surface portion of the core member.

25 13. The vacuum heat insulator of claim 2, wherein the enveloping member is

cut off so as to leave heat seal parts of a specified width along the core member.

14. The vacuum heat insulator of claim 13, wherein the enveloping member is cut off by melting down.

15. The vacuum heat insulator of claim 3, wherein the plural core members
5 are covered with the enveloping member, together a the sheet member, in a state being fixed to one side or both sides of the sheet member.

16. The vacuum heat insulator of claim 15, wherein the sheet member is made of thermoplastic resin.

17. The vacuum heat insulator of claim 3, wherein the core member is
10 triangular, hexagonal, or octagonal in shape.

18. The vacuum heat insulator of claim 2, wherein the core member has an arbitrary shape including triangular, quadrangular, polygonal, circular, elliptical, L-shape and combined shape thereof.

19. The vacuum heat insulator of claim 2 or 4, wherein the thickness of the
15 vacuum heat insulator is 0.5 mm or more to 5 mm or less.

20. A manufacturing method of vacuum heat insulator comprising the steps of disposing a flat core member between mutually facing heat seal layers of gas barrier enveloping member having heat seal layers, heating and pressing the portion including the core member present portion between enveloping members at reduced
20 pressure by a hot plate, and heating and fusing the mutually facing heat seal layers along the core member shape.

21. A manufacturing method of vacuum heat insulator comprising the steps of disposing a flat core member between mutually facing heat seal layers of gas barrier enveloping member having heat seal layers, heating and pressing all parts including
25 the core member present portion between enveloping members at reduced pressure

by a hot plate, and heating and fusing the mutually facing heat seal layers along the core member shape.

22. The manufacturing method of vacuum heat insulator of claim 20 or 21, wherein a hot plate made of an elastic material is used.

5 23. A body warmer having a vacuum heating insulator of claim 3 disposed in clothes.

24. The body warmer of claim 23, wherein the vacuum heat insulator is inserted in a bag formed in the clothes.

10 25. The body warmer of claim 23, wherein the vacuum heat insulator is detachably fitted to clothes.

26. A personal computer comprising a keyboard on the top of a main body, a printed board inside of the main body, a CPU on the printed board, a cooling device for releasing heat from the CPU, and a vacuum heat insulator in a shape depending on the position of installation inside of the main body, wherein said vacuum heat
15 insulator is any one of claims 1 to 19, and is installed at least in one of the inner side of the main body bottom positioned immediately beneath the CPU, and the back side of the keyboard positioned immediately above the CPU.